

### **ABSTRACT OF THE DISCLOSURE**

The invention relates to satellite-based positioning of mobile terminals. Positioning with correction for errors in parameters measured at the mobile terminal is provided. The terminal location is first calculated (S2; S4') without error correction or with partial error correction. Hereby, a set of nonlinear equations with the UE location and the UE clock bias and possibly the transmission time offset as unknowns are defined, linearized and solved for the mobile terminal location. The quality of the result is determined and compared to a predetermined criterion (S3; S5). If the quality criterion is not fulfilled, the location of the mobile terminal is recalculated with additional error correction (S4, S4'; S6). The proposed method can involve correction for errors in a parameter for time of signal reception, or in a pseudorange parameter, or both. The error correction can be stepwise.